

ATTORNEY DOCKET NO.
021953.0304

PATENT APPLICATION
09/811,095


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CONCLUSION

The Commissioner is hereby authorized to charge any additional fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS, L.L.P.
Attorneys for Applicants


Tara D. Knapp
Reg. No. 43,723

2001 Ross Avenue
Dallas, Texas 75201-2980
(214) 953-6910

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Enclosure: Marked-up copy of Abstract showing amendments (2 sheets)

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MARKED-UP COPY OF ABSTRACT SHOWING AMENDMENTS

A method for detecting radiation is disclosed[. **The method comprises nine steps. Step one calls for] that includes forming a detector having a photocathode (22) with a protective layer (22c) of cesium, oxygen and fluorine; a microchannel plate (MCP) (24); and an electron receiver (26). [Step two requires receiving radiation] Radiation is received at the photocathode (22). [Step three provides for the] The photocathode (22) [discharging] discharges electrons (34) in response to the received photons. [In step four, the method provides for accelerating discharged] Discharged electrons (34) are accelerated from the photocathode (22) to the input face (24a) of the microchannel plate (24). [The next step calls for receiving the] The electrons (34) are received at the input face (24a) of the microchannel plate (24). [Step six calls for generating a] A cascade of secondary emission electrons (36) is generated in the microchannel plate (24) in response to the received electrons (34). [The seventh step calls for emitting the] The secondary emission electrons (36) are emitted from the output face (24b) of the microchannel plate (24). [In the eighth step, the method provides for receiving secondary] Secondary emission electrons (36) are received at the electron receiver (26). [The last step calls for producing an] An output characteristic of the secondary emission electrons (36) is produced.**

[A device for detecting radiation is disclosed. The device comprises a photocathode (22), a microchannel plate (24) and an electron receiver (26). The photocathode (22) is operable to receive radiation on an input side (22a) and to discharge electrons (34) from its output side (22b) in response. The output side (22b) of the photocathode (22) has a protective layer (22c) comprising cesium, oxygen and fluorine. The microchannel plate (24) serves to receive electrons (34) on its input face (24a) from the photocathode (22), to produce a cascade of secondary emission electrons (36) and to discharge those electrons (36) from its output face (24b). The electron receiver (26) is operable to receive secondary emissions electrons (36) from the microchannel plate (24) and to produce an output characteristic of those electrons (36).

A method for manufacturing a hardened photocathode (22) is disclosed. The method comprises four steps. The first step requires forming a photocathode (22) having an input side (22a) for receiving radiation and an output side (22b) for

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discharging electrons. The second through fourth steps require exposing the output side of the photocathode (22b) to cesium, oxygen and fluorine respectively to form a protective layer (22c).]